

WHAT IS CLAIMED IS:

1. An Global Positioning System (GPS) receiver, comprising:

a Radio Frequency (RF) Front End, comprising:

a single stage downconverter using dual mixers;

an I/Q Intermediate Frequency (IF) active filter, coupled to the downconverter;

an Automatic Gain Control (AGC) amplifier, coupled to the downconverter;

an Analog-to-Digital Converter (ADC), coupled to the AGC amplifier; and

a frequency synthesizer section including an integrated Voltage Controlled
Oscillator; and

a digital processing section, coupled to the RF Front End, wherein the noise
bandwidth of the IF active filter is set by the IF active filter.

2. The GPS receiver of claim 1, further comprising a Low Noise Amplifier (LNA)

coupled to an RF band select filter, which is coupled to an RF input of the RF front end.

3. The GPS receiver of claim 1, wherein output interface signals of the RF Front End
are Positive Emitter Collector Logic (PECL) compatible.

4. The GPS receiver of claim 3, wherein the PECL compatible outputs of the RF
Front End further include an acquisition clock (ACQCLK) signal generated by the frequency
synthesizer section.

5. The GPS receiver of claim 4, wherein the ACQCLK signal has a frequency approximately equal to $37.3333f_0$, where $f_0 = 1.023$ MHz.

6. The GPS receiver of claim 5, wherein the PECL compatible outputs further include
5 a GPS clock (GPSCLK) signal output from the frequency synthesizer section.

7. The GPS receiver of claim 6, wherein the GPSCLK signal has a frequency approximately equal to $48f_0$, where $f_0 = 1.023$ MHz.

10 8. An interface to a GPS RF front end, comprising:

an Acquisition Clock (ACQ CLK) signal;

a GPS Clock (GPS CLK) signal;

a SIGN signal;

a Magnitude (MAG) signal;

15 a Reference (PECL REF) signal; and

an Automatic Gain Control (AGC DATA) signal,

wherein the ACQ CLK signal, GPS CLK signal, SIGN signal, MAG signal, and PECL REF
signal are Positive Emitter Collector Logic (PECL) compatible.

20 9. The interface of claim 8, wherein the ACQ CLK signal, GPS CLK signal, SIGN
signal, MAG signal, PECL REF signal, and AGC DATA signal couple the GPS RF front end to a
digital processing circuit for processing GPS signals.

